

Instructions for Swapping out a sextupole QPA

- 1) This qpa for the sextupoles is a model 2 qpa.
- 2) The qpa that must be replaced will be in a B alcove. The sitewide name and specific B alcove will be given to you by MCR.
- 3) The spare qpa is in 1007W.
- 4) Please write down the serial number of the qpa you are installing on a piece of paper and leave it with the qpa that was removed.
- 5) Take the spare qpa down to alcove swap it with the QPA that must be removed.
- 6) Bring big tie wraps, cutters, a 7/16 inch socket wrench and labels down to the alcove.
- 7) You will also need other wrenches to remove the DC cables from the qpa buss but I am not sure what size those are.
- 8) Make sure the p.s. is sitting at zero current by checking with MCR, if it is not then have MCR ramp it to zero.
- 9) Next, have MCR put the p.s. into the OFF state.
- 10) Unbolt the rear door with the 7/16 inch socket wrench.
- 11) Next, turn off the circuit breaker on the rear of the p.s. Throwing the circuit breaker is considered a class 0 hazard so you will need Safety glasses, and a natural fiber shirt and natural fiber pants.
- 12) To swap out this qpa all you should need is safety glasses, natural fiber shirt and pants, voltage rated meter and voltage rated gloves.
- 13) Now unplug the 110Vac cord for the qpa.
- 14) Now that the p.s. circuit breaker is turned off, and the 110Vac to the qpa is unplugged, you can use the meter to verify the DC busses are at zero voltage.
- 15) Now cut the heat shrink covering the qpa DC busses, be careful there is one small wire with a resistor in some heatshrink that goes to one of these busses.
- 16) Next label the cables with the terminals they are connected to, if they are not already labeled.
- 17) Disconnect the DC cables from the qpa.
- 18) Install the new qpa and re-connect the cables.
- 19) Make sure you are careful with the one small wire that has the resistor in it.
- 20) Cover the qpa busses with the heatshrink and tie wrap the heatshrink.
- 21) Plug in the qpa.
- 22) Turn on the circuit breaker for the sextupole p.s. and bolt the back door again.
- 23) Ask MCR to use TAPE to recover the sextupole.
- 24) After you see the fan come on for more than 10 seconds you know it is fixed.
- 25) You can leave the broken qpa, with the serial number of the one that replaced it, in 7w. If you know the fault please leave a description of the fault on one of the repair tags in 7W and leave the tag tied to the qpa, along with the sitewide name of where the qpa was installed.
- 26) After MCR turns this sextupole on, with the new qpa, they should bring it up to 10A slowly and let it sit there for 10 minutes to make sure the quench detector is re-trained properly with the new qpa.